GXDFT-110

High Temperature Gel Battery

The GXDFT-110 is a gel battery with 12 years design life designed for frequent deep cycling and for high temperature applications. The battery is made with a heavy duty Calcium Tinalloy as well as double thickness of plates; the plates are made of a special alloy designed to reduce corrosion thus resulting in the long battery life. These features also mean that batteries will operate safely and reliably in high temperature and outdoor applications.

The GXDFT-110 comes with 3 years warranty provided it is installed and have been having regular maintenance in accordance with manufacturer recommendation and specification.

Key features include:

- Maintenance-free operation
- Compact design
- Gelled Electrolyte Technology
- Stable and reliable
- High quality
- Up to 12 years design life at 25°C

Applications include:

- Alarm and security systems
- Backup power for test instruments
- UPS & DC power supplies
- Emergency Lighting
- Fire alarm and security systems
- Auto-control systems
- Electronic apparatus and equipment
- Communications power supply
- Telecommunications systems

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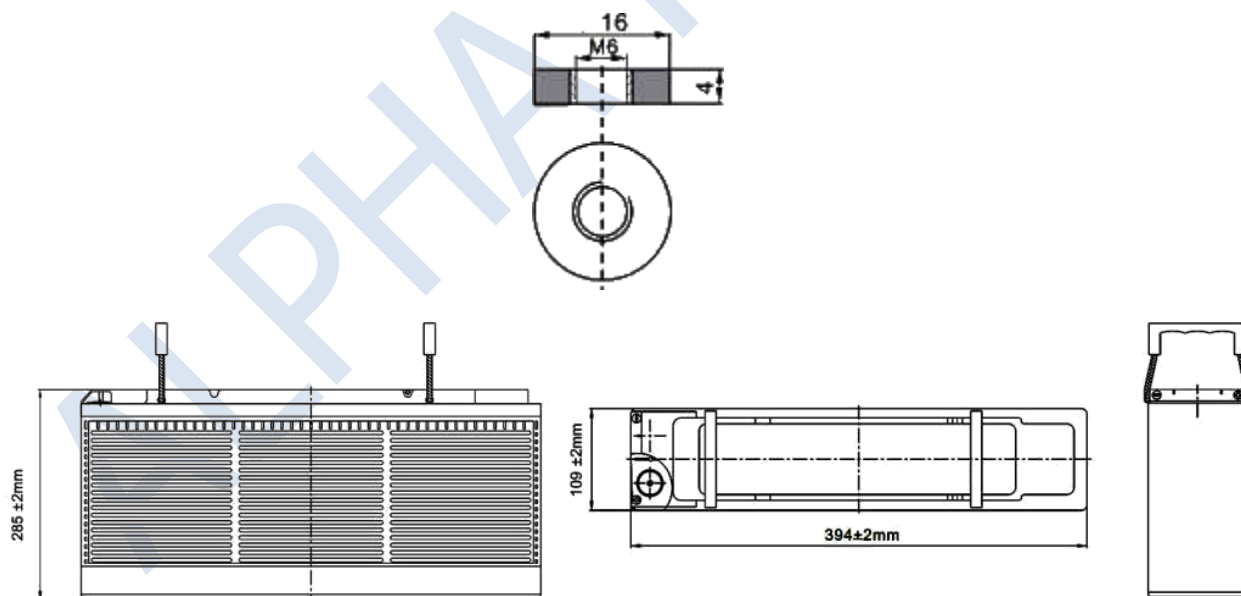**W** www.alphapower.com.au

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Product Specifications

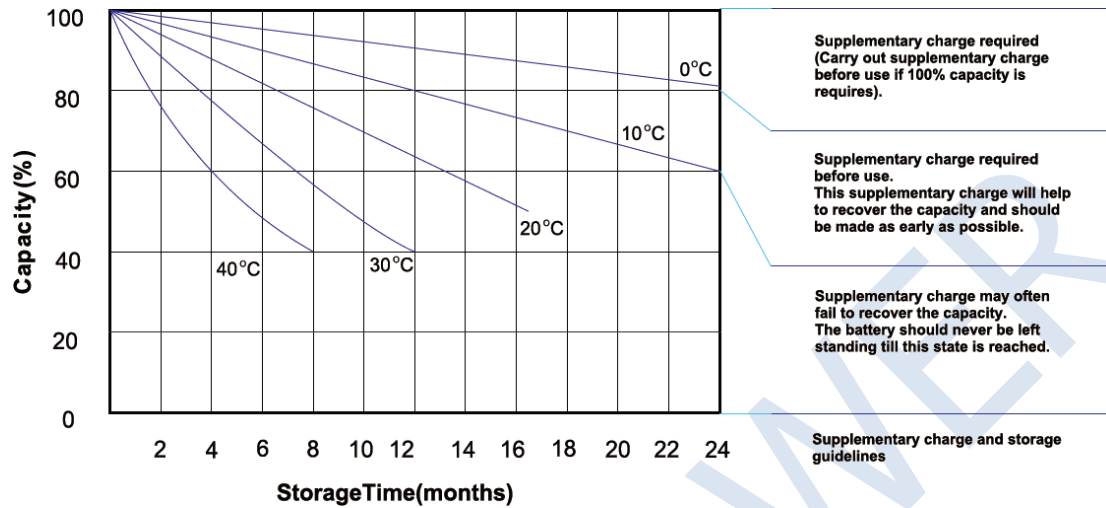| Nominal Voltage		12V (6cells)
Nominal Capacity At 25°C		116Ah (20hr; 1.8V/cell) 110Ah (10hr; 1.8V/cell) 93.5Ah (5hr; 1.75V/cell) 66Ah (1hr; 1.6V/cell)
Terminal		T3
Container Material		ABS
Maximum Discharge Current		1000A (5s)
Internal Resistance		≈ 5.5mΩ
Operating Temperature Range	Discharge	-20 – 50°C
	Charge	0 – 40°C
	Storage	-20 – 40°C
	Nominal	25°C ± 3°C
Capacity Affected by Temperature	40°C	103%
	25°C	100%
	0°C	86%
Cycle Use		14.4 – 14.8V (25°C) Temperature coefficient -30mV/°C Initial charge current < 27A
Standby Use		13.5 – 13.8 (25°C) Temperature coefficient -20mV/°C No limit on initial charge current
Dimensions W x D x H		109 x 394 x 285 mm ± 2mm
Weight		34kg
Self-Discharge		May be stored for up to 6 months at 25°C after which a freshening charge is required. The time interval will be shorter for higher temperatures.

Constant Current Discharge (Amps @ 25°C)

F.V/Time	5min	10min	15min	30min	45min	1h	2h	3h	5h	10h	20h
1.8V/cell	/	192.5	157.0	97.9	75.7	62.2	36.7	27.6	19.0	11.5	6.04
1.75V/cell	/	211.4	170.3	101.9	78.5	64.2	37.8	28.3	19.4	11.7	6.13
1.7V/cell	/	225.8	183.9	105.4	81.1	66.1	38.8	28.9	19.8	11.8	6.19
1.65V/cell	/	240.8	194.4	111.2	84.4	68.7	39.9	29.7	20.2	12.0	6.27
1.6V/cell	/	257.4	203.2	116.1	87.6	71.0	41.0	30.2	20.5	12.1	6.33

Constant Power Discharge (Watts @ 25°C)

F.V/Time	5min	10min	15min	30min	45min	1h	2h	3h	5h	10h	20h
1.8V/cell	/	352.7	297.9	183.9	143.8	121.2	70.7	53.5	37.5	22.8	11.90
1.75V/cell	/	378.1	312.8	191.4	149.7	123.9	72.6	54.6	38.1	23.1	12.07
1.7V/cell	/	397.9	329.1	197.9	154.6	125.7	74.3	55.7	38.5	23.3	12.19
1.65V/cell	/	416.4	341.2	208.6	159.0	129.8	75.9	56.7	39.3	23.4	12.31
1.6V/cell	/	433.4	356.0	215.1	163.2	133.9	77.4	57.8	39.9	23.6	12.43

T3 Terminal

Storage Characteristics

Capacity(%) vs StorageTime(months)

Curves labeled: 0°C, 10°C, 20°C, 30°C, 40°C

Supplementary charge required (Carry out supplementary charge before use if 100% capacity is requires).

Supplementary charge required before use. This supplementary charge will help to recover the capacity and should be made as early as possible.

Supplementary charge may often fail to recover the capacity. The battery should never be left standing till this state is reached.

Supplementary charge and storage guidelines

Effect of Temperature on Long Term Float Life

Life Expectancy (years) vs BatteryTemperature(°C)
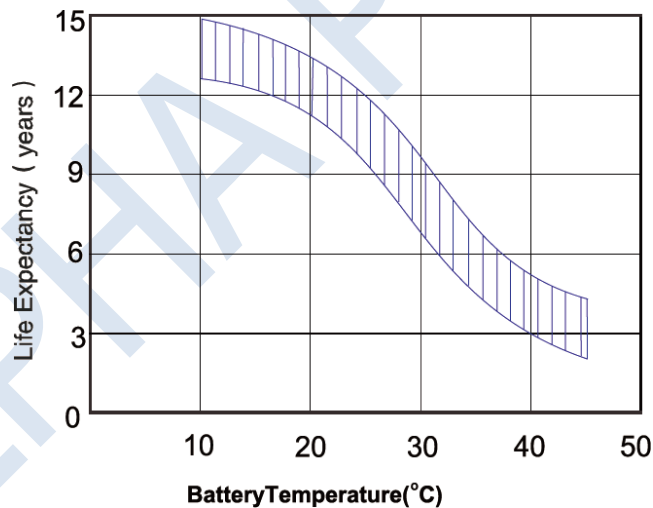
Charge Characteristic Curve for Standby Use

Charge Volume

Charge Voltage

① Discharge
100%(0.05CAx 20h)
50%(0.05CAx 10h)

② Charge
Charge Voltage 2.275V/C
Charge Current0.1CA

③ Temperature 25 °C

Charge Current

Charge Voltage(V) — Charge Voltage e(%) — Charge Voltage(CA)
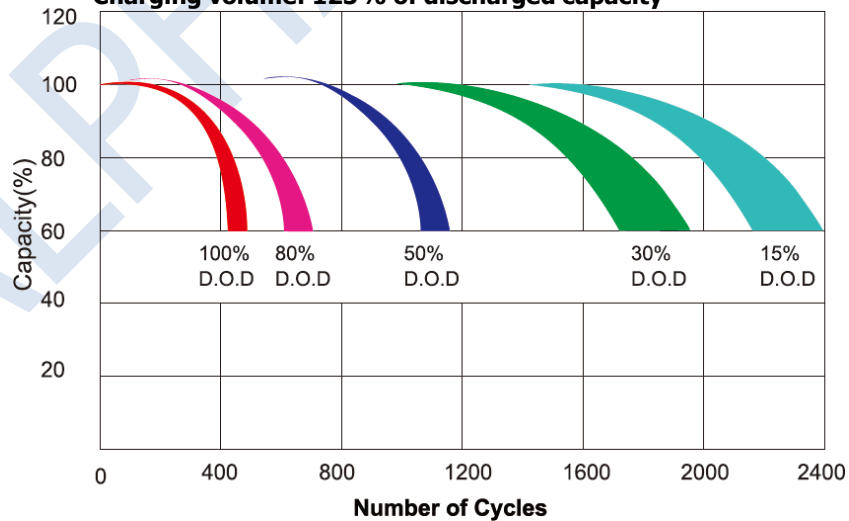
ChargeTime(h)
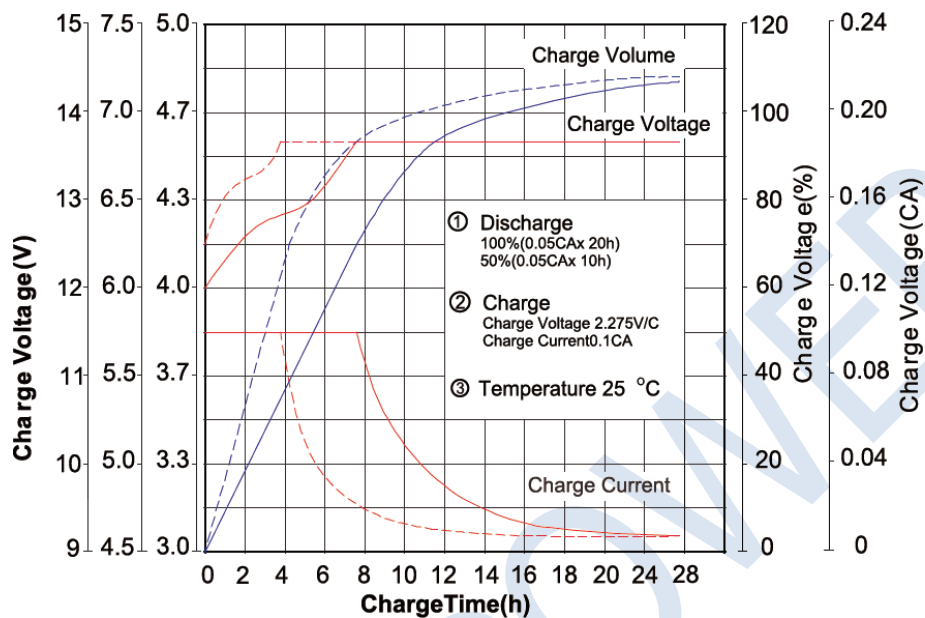
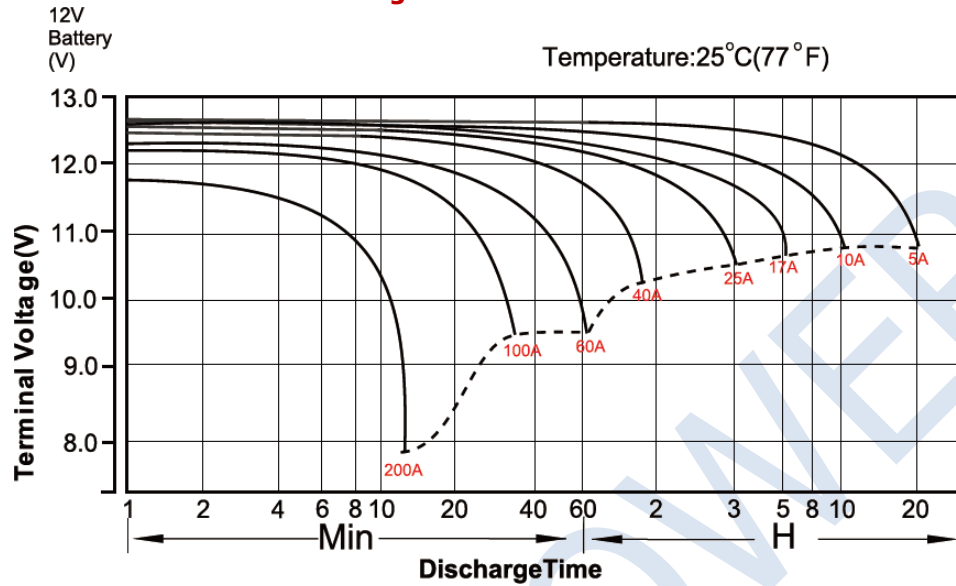## Cycle Life in Relation to Depth of Discharge

Testing Condition
Discharging: current 0.17C (FV 1.7V/cell)
Charging: current 0.25C max, voltage 2.45V/cell
Charging volume: 125% of discharged capacity

Capacity(%)

100%
D.O.D

80%
D.O.D

50%
D.O.D

30%
D.O.D

15%
D.O.D

Number of Cycles

Discharge Characterstic Curve

Temperature:25°C(77°F)

Discharge curve labels: 12V Battery (V), Terminal Voltage(V) vs DischargeTime (Min / H). Current curves labeled: 200A, 100A, 60A, 40A, 25A, 17A, 10A, 5A.

Temperature Effects in Relation to Battery Capacity

Capacity (%) vs Temperature(°C). Curves labeled 0.1CA, 0.17CA, 0.25CA.